# K-3 CLASS SIZES IN MISSISSIPPI'S 4th CONGRESSIONAL DISTRICT

**Prepared for Congressman Ronnie Shows**

**Minority Staff Report**
**Special Investigations Division**
**Committee on Government Reform**
**U.S. House of Representatives**

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## EXECUTIVE SUMMARY

This report on class sizes was prepared at the request of Congressman Ronnie Shows of Mississippi. It analyzes the number of children in kindergarten through third-grade classrooms in the 4th Congressional District of Mississippi, which includes the city of Jackson and most of southwestern Mississippi. It finds that during the 1999-2000 school year, over 80% of young children in the congressional district were taught in classrooms that exceeded the national goal of 18 students per classroom.

A growing body of research indicates that class size in the younger grades has a direct and substantial impact on learning. Studies in several states, including Tennessee, Wisconsin, North Carolina, and California, indicate that reducing class size to 18 students or fewer in grades K-3 can significantly improve student achievement. According to the federal Department of Education, "class size reduction in the early grades is one of the most direct and effective ways to boost children's academic achievement." For this reason, the Department has established a national objective to "reduce class size in the early grades to a nationwide average of 18."

While the importance of class size to student achievement is widely accepted, few reports have investigated the actual class sizes in public schools in the United States. For this reason, Rep. Shows asked the minority staff of the Committee on Government Reform to investigate class sizes in his congressional district, the 4th Congressional District of Mississippi. The data summarized in this report consists of classroom-by-classroom statistics reported by the 23 elementary school districts in the 4th Congressional District. Over 31,000 K-3 students over 1,500 classes are covered by this report.

The report finds that during the 1999-2000 school year, there was a serious problem of overcrowding in classrooms in the 4th Congressional District. Fewer than 20% of children in grades K-3 were taught in classrooms that met the national goal of 18 students per class. In contrast, more than 80% of students were taught in classes that exceeded the optimal class size of 18. In addition, a significant minority of students (14.7%) were taught in especially large classes of 25 or more students. These findings are summarized in Figure 1.

The report also analyzes class size statistics on a grade-by-grade basis. It finds that during the 1999-2000 school year, overcrowded classrooms were a problem at each grade level in the 4th Congressional District. The percentage of students in overcrowded classes of 19 or more ranged from 74.7% in the first grade to 86.5% in kindergarten (see Figure 2).

## I. THE IMPORTANCE OF SMALL CLASS SIZE

There is substantial evidence that reducing class size to 18 or fewer in grades K-3 can have a substantial positive impact on student achievement. This research -- and the national program to reduce class size to 18 or fewer in these grades -- is summarized below.

### A. The Findings of the U.S. Department of Education

The U.S. Department of Education has extensively studied the impact of class size on student achievement. In a series of reports, the Department reviewed the large body of research on class size and concluded that smaller class sizes lead to improved student achievement. According to the Department, "research has shown that class size reduction in the early grades is one of the most direct and effective ways to boost children's academic achievement."[1]

Researchers with the Department have concluded that "a consensus of research indicates that class size reduction in the early grades leads to higher student achievement."[2] The researchers reached this conclusion after reviewing over 20 years of studies employing varying methodologies. They found that "the significant effects of class size reduction on student achievement appear when class size is reduced to a point somewhere between 15 and 20 students."[3] They also noted that the research indicated that there were greater small-class advantages for minority and low-income students.[4]

In another report, Department researchers reviewed several recent studies on class size and found that they "provide compelling evidence that small classes in the primary grades are academically

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[1]U.S. Department of Education, *A National Effort to Ensure Smaller Classes with Well-Prepared Teachers* (1999).

[2]Pritchard, Ivor, National Institute on Student Achievement, Curriculum and Assessment, Office of Educational Research and Improvement, U.S. Department of Education, *Reducing Class Size: What Do We Know?* (1999).

[3]*Id.*

[4]*Id.*

superior to regular-size classes.'[5] The report concluded that "this research leaves no doubt that small classes have an advantage over larger classes in student performance in the early primary grades.'[6]

### B. The Tennessee "STAR" Study

The most comprehensive and scientific study to date on the impact of class size on student achievements is Tennessee's Student-Teacher Achievement Ratio (STAR) study. Initiated in 1985, STAR was a multi-year class size study conducted by the state of Tennessee. The study encompassed more than 7,000 students in 79 elementary schools. Within each school, kindergarten students were randomly assigned to one of three types of classes: small (13-17 students), regular (22-26 students), or regular with full-time aide (22-26 students taught by one teacher and one full-time teaching aide). The students were kept in classes with these assigned sizes for four years (from grades K-3) and were given standardized tests yearly. Teachers were randomly assigned to classes on a yearly basis. In effect, the STAR study was designed as a controlled scientific experiment on the question of whether class size is a significant factor in a student's academic achievement.

The STAR study found that the benefits of small classes in grades K-3 are both significant and long-lasting. First, it found that when compared to their counterparts in larger classes, students in classes with fewer than 18 students reached more advanced levels of achievement in math, reading, and word study skills.[7] This was true even when students in small classes were compared to students in larger classes with a teaching aide. Researchers reported statistically significant improvements in student achievement at each grade level. When translated into months of schooling completed, these results showed that at each grade level, students in small classes were ahead of their peers in their school work by several months.[8]

The study found that the benefits of smaller classes are sustained through later grades. Students who spent four years in small classes continued to demonstrate greater achievement levels as they progressed through school, even after they were returned to regular-size classrooms.[9] By the eighth grade, they were ahead of their peers in core subjects by more than a year of schooling, as depicted in Table 1.

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[5]Finn, Jeremy, National Institute on the Education of At-Risk Students, Office of Education Research and Improvement, U.S. Department of Education, *Class Size and Students at Risk* (1998).

[6]*Id.*

[7]Finn, Jeremy, et al., *Short- and Long-term Effects of Small Classes* (1999).

[8]*Id.*

[9]*Id.*

**Table 1: Small Classes in the Early Grades Result in Long-Term Academic Benefits**.

| Subject | Advantage by Grade 8 of Small Class Size (Measured in Years of Additional Schooling) |
|---|---|
| Mathematics | 1 year, 1 month |
| Reading | 1 year, 2 months |
| Science | 1 year, 1 month |

STAR researchers also found that the benefits of small classes were substantially greater for minority and low-income students.[10] In the core subjects of math, reading, and word study skills, minority students derived twice as much benefit from smaller classes than white students.[11]

The STAR study also found a variety of other important benefits to small K-3 classes, including higher high school graduation rates[12] and a greater propensity to take college entrance exams[13] among students who had been taught in small classes.

### C. Other Class Size Research

[10]Finn, Jeremy, *Tennessee's Class Size Study: Findings, Implications, Misconceptions* (1999).

[11]Finn, J. and Achilles, C., *Answers about questions about class size: A statewide experiment* (1990).

[12]Pate-Bain, H., et al., *Effects of Class Size Reduction in the Early Grades (K-3) on High School Performance* (1999).

[13]Krueger, A. and Whitmore, D., *The Effect of Attending a Small Class in the Early Grades on College Attendance Plans* (1998).

Other recent studies have reached similar results. For example, a class size reduction program implemented in North Carolina found that first and second grade students who attended small classes outperformed other students on standardized reading and math achievement tests. The study also found that the percentage of classroom time devoted to noninstructional activities such as discipline decreased by 30% compared with larger classes.[14]

Similar results have been reported from Wisconsin, which in 1996 began a class size reduction program called the Student Achievement Guarantee in Education (SAGE) program. The program has phased in small classes throughout the last three years in 45 schools. Researchers studying this program found that first and second grade students in SAGE achieved consistently higher scores in every subject area on standardized tests.[15]

Results from a California initiative to reduce class size also confirm the importance of smaller classes. In 1996, the state of California implemented a statewide effort to reduce the class sizes of all classes in grades 1-3 to below 20 students. Due to the speed with which the program was implemented, students were often taught in temporary facilities by hastily recruited teachers without teaching credentials.[16] Despite the difficulties associated with the program, a preliminary study found that after one year in the program, third graders experienced a "small positive achievement gain" on standardized tests.[17] Also, the study found that teachers spent more time working with individual students and less time on discipline in the smaller classes.[18] In the second year of the program, researchers found that third-graders in smaller classes continued to perform better on standardized tests and that these achievement gains persisted even after students were returned to larger classes in the

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[14]Egelson, P., et al., *Does Class Size Make a Difference? Recent Findings from State and Districts Initiatives* (1996).

[15]Molnar, A., et al., *1997-98 Results of the Student Achievement Guarantee in Education (SAGE) Program* (1998).

[16]CSR Research Consortium, *Class Size Reduction in California 1996-98: Early Findings Signal Promise and Concerns* (1999). The California program provided substantial financial incentives for schools to place students in classes of 20 or fewer, giving schools a bonus of $650-$800 per student placed in a class of 20 or fewer. Responding to these incentives, "school districts managed to put hundreds of thousands of students in small classes by the time school started, just six weeks after the legislation passed." *Id.*

[17]*Id.* Third graders were the only group examined because they were the only grade with enough students not participating in the program to serve as a basis for comparison.

[18]*Id.*

fourth grade.[19]

### D. Federal Class Size Objectives

The developing scientific consensus on the importance of small class sizes has resulted in a federal effort to reduce K-3 class sizes to 18 across the nation. In his 1998 State of the Union address, President Clinton called for a national effort to reduce class sizes:

> Tonight, I propose the first ever national effort to reduce class size in the early grades. . . . My balanced budget will help to hire 100,000 new teachers who have passed a state competency test. Now, with these teachers . . . we will actually be able to reduce class size in the 1st, 2nd, and 3rd grades to an average of 18 students a class, all across America.[20]

In October 1998, the Congress approved the President's plan to reduce K-3 class size to 18, appropriating $1.2 billion to hire the first 30,000 new teachers. According to the Department of Education, this was "the first installment of an initiative that is anticipated to provide $12.4 billion over 7 years to help schools hire 100,000 new teachers and reduce class size in the early grades to a nationwide average of 18."[21] In 1999, Congress appropriated an additional $1.3 billion for fiscal year 2000 to continue the process of reducing K-3 class sizes.

Federal funding for class size reduction in fiscal year 2001 is currently being debated in Congress. Republicans in Congress have proposed an education budget that contains no dedicated funding for the President's class size reduction program. President Clinton has pledged to veto such a budget. Final budget negotiations are expected this fall.

## II. STUDY OBJECTIVES AND METHODOLOGY

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[19]CSR Research Consortium, *Class Size Reduction in California: 1998-99 Evaluation Findings* (2000).

[20]1998 State of the Union address available at: www.whitehouse.gov/WH/EOP/OP/html /OP_Speeches.html.

[21]Department of Education website: http://www.ed.gov/offices/OESE/ClassSize/.

Congressman Ronnie Shows represents the 4th Congressional District of Mississippi, which includes the city of Jackson and most of southwestern Mississippi. Because of the importance of small class size to educational performance, Rep. Shows requested that the minority staff of the Committee on Government Reform investigate class sizes in grades K-3 within his district. Specifically, he requested that the study compare class sizes in grades K-3 with national goal of 18 students per classroom. This report presents the results of this investigation.

The report is based on data obtained from the Mississippi Department of Education. The data was submitted to the Department on a classroom-by-classroom basis during the 1999-2000 school year by each school district.

The 4th Congressional District contains 23 elementary school districts that taught 31,680 K-3 students during the 1999-2000 school year.[22]

## III. FINDINGS

### A. Overcrowding in Schools in the 4th Congressional District

The data reveal that overcrowding in K-3 classrooms is a serious problem in Mississippi's 4th Congressional District. For the 1999-2000 school year, the overwhelming majority of young children in the district's public schools were taught in classrooms that exceeded the optimal class size of 18 or fewer students. Out of the 31,680 K-3 students in the district, only 6,087 children (19.2%) were taught in classes of 18 or fewer students. In contrast, 25,593 children (80.8%) were taught in classes that exceeded the optimal class size.

In addition, 4,662 K-3 students (14.7%) were taught in classes of 25 or more. Table 2 summarizes these results.

**Table 2: Distribution of K-3 Students by Class Size**

[22]The districts are the Amite County, Brookhaven, Clinton Public, Columbia, Copiah County, Covington County, Franklin County, Hazelhurst County, Hinds County, Jackson Public, Jefferson Davis County, Jones County, Laurel, Lawrence County, Lincoln County, Marion County, McComb, Natchez-Adams, North Pike, Simpson County, South Pike, Walthall County, and Wilkinson County school districts.

| Class Size | # of Students | % of Students |
|---|---|---|
| 18 or Fewer | 6,087 | 19.2% |
| 19-24 | 20,931 | 66.1% |
| 25 or More | 4,662 | 14.7% |

The average class size for the 1999-2000 school year in the 4th Congressional District was 20.8.

## B. Grade-by-Grade Comparison

The data also indicate that during 1999-2000 school year, overcrowded classes were a problem at every grade level in the 4th Congressional District. The grade with the highest percentage of students in overcrowded classes was kindergarten, where over 85% of students were taught in classes exceeding the optimal class size of 18 students per classroom. The grade with the lowest percentage of students in overcrowded classes was the first grade, where 74.7% of students were taught in classes of 19 or more. Even in the first grade, however, nearly three out of every four students were taught in overcrowded classes.

Average class sizes ranged from 20.2 in the first grade to 21.2 in kindergarten and the third grade. Table 3 provides grade-by-grade class size statistics.

**Table 3: Overcrowded Classes Were a Problem at Every Grade Level**

| Grade | % of Students in Classes of 18 or Fewer | % of Students in Classes of 19-24 | % of Students in Classes of 25 or More | Average Class Size |
|---|---|---|---|---|
| **Kindergarten** | 13.5% | 72.8% | 13.7% | 21.2 |
| **1st Grade** | 25.3% | 59.9% | 14.8% | 20.2 |
| **2nd Grade** | 21.8% | 63.2% | 15.0% | 20.8 |
| **3rd Grade** | 14.9% | 69.8% | 15.3% | 20.8 |

## C. Class Sizes in the Jackson Public Schools

The data indicate that overcrowded classes are a special problem in the 4th Congressional

District's largest school district, the Jackson Public Schools. K-3 students in the Jackson Public Schools were more than twice as likely to be taught in especially overcrowded classes of 25 or more than students in other areas of the 4th Congressional District. In the Jackson Public Schools, 23.7% of children in grades K-3 were taught in classes of 25 or more. In the other areas of the 4th Congressional District, this percentage was 10.3%.

K-3 students in the Jackson Public Schools were also less likely than their peers in other areas of the 4th Congressional District to be taught in optimally sized classes of 18 or fewer students. Only 16.2% of Jackson Public Schools K-3 students were taught in classes of 18 or fewer, compared to 20.7% in other areas of the 4th Congressional District. Table 3 provides comparative class size statistics for the Jackson Public Schools and other areas of the Mississippi's 4th Congressional District.

**Table 4: Class Sizes in the Jackson Public Schools**

| Class Size | Jackson Public Schools | Other Areas of 4th C.D. |
|---|---|---|
| **18 or Fewer** | 16.2% | 20.7% |
| **19-24** | 60.1% | 69.0% |
| **25 or More** | 23.7% | 10.3% |
| **Avg. Class Size** | 21.3 | 20.6 |